# PHILIPS ZOOM!

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## **Course Synopsis:**

The CE webinar will include an opportunity for the participant to assess their present whitening program and ensure best practices are being represented. The support of strong evidence-based science will be highlighted to provide the dental professional with a solid conviction to guide their decision-making in implementing best whitening practices.

## **Educational Objectives:**

To understand the science and mechanisms of professional teeth whitening products
To evaluate and assess the dental client proactively to ensure best treatment outcomes
To apply innovative strategies to proactively address desensitization and remineralization
To critically evaluate the comprehensiveness of professional whitening options available in your practice

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## **Setting Up the Ideal Whitening Practice**

## The Quest for the Perfect Smile

Alive and well and supporting a multi-million-dollar teeth-whitening industry

Living in a world of 'instant gratification' has influenced society's pursuit of obtaining quick results

With advancements in innovative product design, there are several options that deliver fast, comfortable and effective results

## **Obstacles to Whitening:**

Obstacles to Professional Whitening

64% - Too expensive

40% - I keep forgetting to get it done

39% - It may damage my teeth

34% - I have sensitive teeth

18% - It might hurt

17% - It might make my teeth look too white

# To understand the science and mechanisms of professional teeth whitening products

## **Historical Overview of Whitening**

- Hydrogen peroxide was used in dentistry over 100 years ago for use in periodontal treatment and wound healing
- Use of peroxide-containing gingival strip to heal periodontal tissues with unintentional outcome of tooth whitening
- Custom fitted vacuum-formed trays with a carbamide gel emerged in the late 1960's
- Overnight whitening emerged on the scene in the late 80's; introduction of Opalescence

## Fast Forward to a COVID World

Could 10% carbamide peroxide be considered an adjunctive therapy for risk management of COVID-19?

- Oxidation principle of hydrogen peroxide has the ability to inactivate viruses and bacteria
- Penetration into the gingival crevice results in removal of gramnegative bacteria, further cleansing and stimulation of healing
- Low concentrations of H2O2 over extended periods of time have a direct effect on minimizing inflammation, thereby reducing cytokine and IL-6 levels
- It is recommended that poor oral hygiene be considered a risk for COVID-19 complications supported by the fact that COVID-19 patients who have been hospitalized are far more likely to die of respiratory failure if they suffered from periodontitis before contracting COVID-19

Notes:-	

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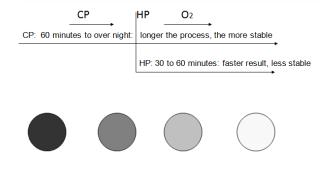
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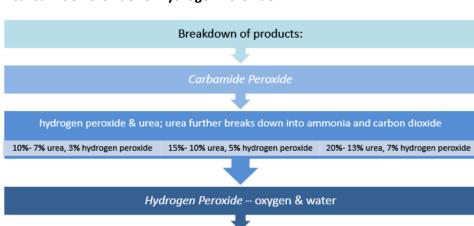
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## Science & Mechanism of Whitening



## Carbamide Peroxide vs. Hydrogen Peroxide



### Choosing the right concentration and system minimizes adverse affects

## Whitening Mechanism

## Extrinsic vs. Intrinsic stain

Extrinsic located in tooth pellicle as a result of certain food/beverages; removed with effective self-care measures

Intrinsic located beneath the enamel surface as a result of chromogenic materials diffusing into the enamel and accumulating at the dentin level; aging and certain medications are primary cause

Whitening agents penetrate both enamel and dentin
Diffusion involves principle of oxidation using a whitening agent
Disassociation occurs by a citric based product

## Safety of Teeth Whitening

Well studied and documented

"In examining the safety of H2O2 and carbamide peroxide component, more than 500 articles over the past half century , both in dentistry and medicine were assessed. All of these studies attested to the safety of these specific whitening components."

"The safety and efficacy of hydrogen peroxide is well-established."
"When manufacturer's instructions are followed, hydrogen peroxide
and carbamide peroxide-based tooth whitening is safe and effective."

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**Remember:** Literature based on professional whitening systems initiated in a controlled environment.

## **JADA Statement on Light-Activated Whitening**

Clinical studies have shown that when a light source is added to the whitening process, the results are enhanced. As reported in the Journal of the American Dental Association, "Peroxide and light treatment significantly lightened the color of teeth to a greater extent than did peroxide or light alone with a low and transient incidence of tooth sensitivity. Light can increase the tooth-whitening effect of peroxide, thereby increasing the effectiveness of tooth-whitening procedures."

## The Science Behind Philips Zoom Whitening

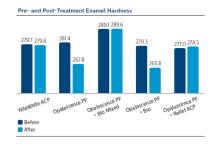
## STUDY:

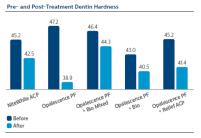
## **Whitening Treatment Combined with Bioactive Materials**

**Objective:** Influence of bioactive materials on enamel/dentin using Knoop hardness test

**Methodology:** Eight human teeth subjected to 14 days of whitening with 15% CP, KNO3, FI (Opalescence PF), 16% CP, KNO3, FI, Ca, phosphate (NiteWhite ACP), 15% CP, KNO3, FI and glassceramic crystalized glass/biosilicates (Opalescence PF) and 15% CP, KNO3, FI + KNO3, FI, Ca, K (Opalescence PF + Relief ACP)

**Results:** Opalescence PF caused hardness decrease on enamel and dentin. NiteWhite ACP and the bioactive materials had a positive influence on hardness. Biosilicate material showed a decrease in KHN. **Conclusion:** Whitening treatment can lead to alterations in the dental structure. Adding bioactive materials can minimize or eliminate the alterations and bring benefits to patients.





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STUDY: in vivo study

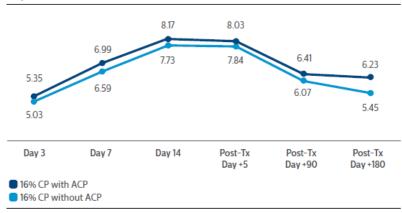
## 180 day investigation of bleaching gel efficacy with ACP

**Objective:** To determine if there are any long-term clinical benefits or side effects caused by addition of ACP to professional 16% CP bleaching gel

**Methodology:** Continuation of previously published short term study. Two groups using either 16% CP bleaching gel with ACP or 16% CP without ACP. Long term effects of ACP assessed for shade, gingival health and dentinal hypersensitivity.

**Results:** Statistical shade difference almost doubled for ACP group at day +90 and more than doubled again at day +180. Tooth sensitivity, gingival and soft tissue health remained similar to baseline levels. **Conclusion:** The study demonstrated that the addition of ACP offers greater long-term whitening efficacy with no adverse gingival or other effects at day +90 and day +180.

#### Improvement in Tooth Color from Baseline

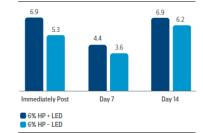


STUDY: Comparison of the tooth shade reduction and color change effects of 6% HP with and without Philips Zoom WhiteSpeed LED acceleration followed by use of Philips Zoom NiteWhite 16% CP **Objective:** Shade reduction comparison following application of 6% HP with and without LED acceleration including evaluation of safety, tooth color at all time points and tooth shade at Day 14 post in-office bleaching Methodology: Randomized, single-blind, split-mouth (opposing arch) design. Study subjects randomly assigned to opposing arch in-office whitening with 6% HP with and without Philips Zoom WhiteSpeed LED acceleration assessed at Day 7 and 14. At Day 7 subjects were provided a three dose NiteWhite 16% CP overnight application kit, soft-bristle MTB and Sensodyne True White dentifrice for duration of study. **Results:** Statistically significant shade reduction immediately following, at Day 7 and Day 14 with 6% HP with LED acceleration Conclusion: In-office tooth bleaching with 6% HP with Philips Zoom WhiteSpeed LED acceleration was superior to in-office bleaching without LED acceleration at all study time points.

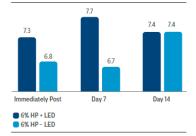
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## Shade Guide Unit Reduction, VITA BleachedGuide 3D Master - LED versus no LED Change Immediately, Day 7 and Day 14 Following Treatment



## Color Change $\Delta E^*$ , VITA EasyShade – LED versus no LED Change Immediately. Day 7 and Day 14 Following Treatment





A COMPARATIVE STUDY TO ASSESS THE WHITENING EFFECT OF TWO **PROFESSIONAL** BLEACHING REGIMENS

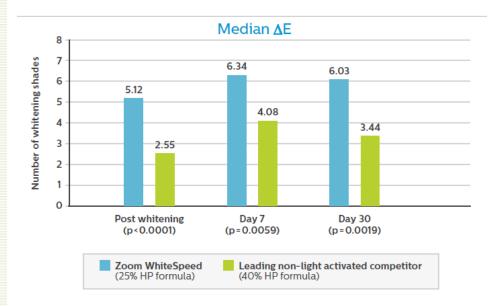


**Objective:** To research the difference between whitening in-office using an LED light source vs. whitening without the light Methodology: 135 subjects participated in double blind, randomized clinical study. One group whitened using Zoom LED WhiteSpeed/25% HP and the other used 40% HP gel without LED light source. **Results:** Immediately following, Zoom participants experienced a 50% better shade improvement vs. the Opalescence BOOST PF group.

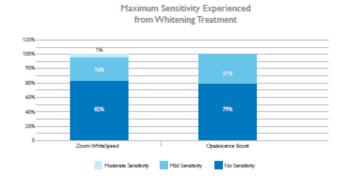
**Conclusion:** Statistically significant whitening shade increase was achieved with a lower HP concentration demonstrating the light had significant impact on the whitening result. 99% of the patients surveyed experienced little to no sensitivity with either treatment.

Notes:-		

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## 99% of consumers experienced little to no sensitivity from the WhiteSpeed treatment.



STUDY: A two-phase, three-month clinical evaluation comparing two chair-side tooth bleaching treatments and tooth shade maintenance by powered or manual brushing

**Objective:** Phase I compares effects of chair side bleaching on shade immediately, 7 days and 30 days following treatment. Phase II examines maintenance of tooth color/shade compared between a PTB and MTB, Day 30 to Day 90. Tooth sensitivity monitored throughout.

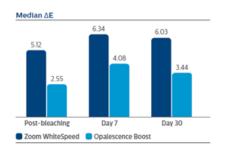
**Methodology:** Randomized, parallel, two-phase clinical trial. Chair-side with Philips Zoom WhiteSpeed, 25% HP and LED acceleration or Opalescence Boost PF 40% HP. Both subject and examiners blinded to assigned treatment. Shade evaluations pre-treatment, immediately following, Day 7 and 30. All used MTB during Phase 1. Phase 2 divided between Philips Sonicare DiamondClean PTB or a MTB.

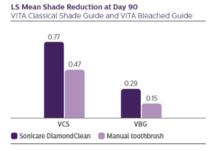
**Results:** Statistically significant shade reduction at Day 7 with Philips Zoom WhiteSpeed, 25% HP and LED acceleration. Phase II determined the Sonicare DiamondClean PTB was statistically superior to MTB in maintaining shade.

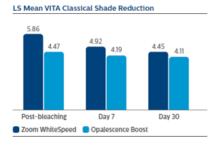
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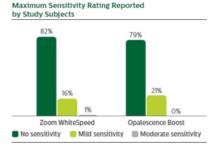
**Conclusions:** At Day 7 following tooth bleaching, Philips Zoom WhiteSpeed showed statistically greater change in overall tooth color and shade than Ultradent Opalescence Boost PF.

At Day 90 following tooth bleaching, Philips Sonicare DiamondClean powered toothbrush-maintained tooth shade significantly better than a manual toothbrush. Both chair-side tooth bleaching products and the toothbrushing regimens are safe for use.









## To evaluate and assess the dental Patient proactively to ensure best treatment outcomes

## **Pre-whitening Clinical Assessment and Evaluation**

Personal history

Medical/Dental History

Intraoral assessment

- Use of magnification and dedicated light source
- Radiographic interpretation

Self-Assessment

Determine cause of discoloration

Identify any additional contraindications or barriers to achieving optimal results

# **Pre-Whitening Patient Assessment (included in HANDOUT)**Purpose:

- Identify candidacy for whitening
- Identify patient expectations and priorities
- Inform patient of any perceived or known contraindications
- Evaluate sensitivity pre-whitening and make appropriate recommendations
- Documentation of shade
  - Centrals, cuspids, gingival third

Notes:-	
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# To apply innovative strategies to proactively address desensitization and remineralization

## **Addressing Tooth Sensitivity**

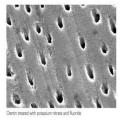
Soft tissue irritation

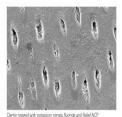
Tooth sensitivity OTC vs. professional systems (in office and tray whitening

# Amorphous Calcium Phosphate Power of 3 – ACP, Potassium Nitrate and Fluoride

- ACP treats both demineralization and hypersensitivity.
- Delivers the most calcium and phosphate ions in the shortest period of time within 6-8 minutes regardless of the pH level
- Absorbed into the lumens of open dentinal tubules to partially occlude them reducing the fluid movement and successfully blocking the stimulation of the nerve fibres; end result is significant reduction of sensitivity
- The combination of ACP and fluoride precipitates hydroxyapatite and fluorapatite to physically occlude dentinal tubules much more quickly than fluoride alone
- A new layer of hydroxyapatite is formed on the enamel surface filling surface defects which adds lustre







**Sensitivity Index** 

- Purpose
- Procedure
- Scoring
- 0: No sensitivity
- 1: *Mild sensitivity*-client indicates some discomfort during air blast but not following
- 2: *Moderate sensitivity*-client indicates discomfort with facial grimacing and expresses definitive discomfort during air blast
- 3: Acute Sensitivity-client indicates sensitivity prior to air testing which is then exacerbated by air blast lingering following exposure
- 4: Frank Sensitivity-client expresses sensitivity to the extent that the air blast is refused

Notes:-		

### **Resources:**

## **Zoom Success Guide**

## www.zoomsuccessguide.com

Whitening Opportunity - Practice Calculator Patient educational strategies Product overview

Practice Building

**Premier Partner Rewards** 

## **Marketing Materials**

- Downloadable, Customizable and Preprinted
- Social media templates

**Pre-Whitening Assessment form** (included in handout)

# ADA Information on Teeth Whitening and Patient Resources

https://www.ada.org/en/member-center/oral-health-topics/whitening

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# To critically evaluate the comprehensiveness of professional whitening options available in your practice

## What's wrong with this math?

**77**%

of the U.S. population is concerned about yellow teeth

Dental professionals
offer whitening to

25%
of their patients

## The first step is recognizing all patients as whitening candidates!

Whitening Practice Calculator available with the Zoom Success Guide. Identify the potential revenue stream from professional whitening for your practice.

CURRENT SCENARIO VS. POTENTIAL SCENARIO

## **In-Office Whitening Checklist**

## Have you uncovered your potential?

Fill out the whitening calculator

## Information on your website

- FAQs about professional whitening vs. OTC
- Why OTC whitening products may not be for YOU
- Addressing consumer concerns
- Your results, your patients (testimonials)

## Options for meeting today's consumer demands

- In-office whitening for those who wish quick results
- Daytime options with higher concentration, shorter wear time
- Nighttime options with lower concentration, longer wear time
- Evidence based sensitivity protocols

## Sustaining the Whitening Results

- PTB to maintain a lasting whitening effect. Set your patients up for success!
- Touch up pens for whitening between visits
- Endless whitening campaigns

## **Marketing Materials**

- Download/Print or Customize/Print
- Materials for special occasions, seasonal promotions, events, social media engagement etc.

Thank you to Philips Oral Healthcare for their continued support of education for the dental community. If I may assist you any further in regard to this online presentation, please contact me via email; jjones@jo-annejones.com

Wishing you continued practice success!